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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/517,669

06/02/2005

Dieter Kassel

KW-2030 (23091)

1888

27877 7590 04/09/2008

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EXAMINER

ZHU, WEIPING

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

04/09/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/517,669	<b>Applicant(s)</b> KASSEL ET AL.	
	<b>Examiner</b> WEIPING ZHU	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 6-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of Claims***

1. Claims 1-5 are currently under examination, wherein claims 1-5 have been amended in applicant's amendment filed on January 31, 2008. The non-elected claims 6-12 have been withdrawn in the same amendment.

### ***Status of Previous Rejections***

2. The previous rejections to Claims 1-5 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention and the previous rejections to Claims 1-5 under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US 6,110,603) as stated in the Office action dated October 12, 2007 have been withdrawn in light of the applicant's amendments filed on January 31, 2008. The ground(s) of rejections have been established as follows:

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "substantially two-phase" in line 1 of claims 1-5 and the phrase "consisting essentially" in line 2 of claim 1 render the claims 1-5 indefinite, because a 3<sup>rd</sup> phase is obviously present in the claimed hard metal substrate body both before and

after a top layer of a carbide, nitride and/or carbonitride is applied to the body as discussed in the paragraph 1 of the Office action dated October 12, 2007.

Appropriate corrections are required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. ('603).

With respect to claim 1, Chen et al. (603) disclose a hard metal body comprises by weight 10-96% of WC, 3-25% of a binder comprising Ni, Fe and Co and up to 2% of Cr (i.e. the claimed dopant), wherein the binder content in an edge zone of the hard metal body drops to less than half the binder content in the body interior (col. 2, line 63 to col. 4, line 37). The contents of the binder and the dopant of Chen et al. (603) overlap the claimed contents. A prima facie case of obviousness exists. See MPEP 2144.05 I.

Chen et al. (603) do not specify the proportion of a cubic phase as claimed. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the volume percent range of a cubic phase of Chen et al. (603) would be substantially identical to the claimed range, because the content of the cubic phase forming elements (e.g. Cr) is substantially identical to the claimed content.

With respect to claim 2, Chen et al. (603) disclose that the concentration of the binder phase falls gradually toward the body surface and the concentration of the dopant gradually increases toward the body surface (Figures 1 and 3).

With respect to claim 3, Chen et al. (603) do not disclose the claimed features. However, it has been well held where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977), MPEP 2112.01 [R-3] I. In the instant case, the claimed and Chen et al. (603)'s hard metal body are identical or substantially identical in structure or composition and are produced by identical or substantially identical processes, therefore a prima facie case of obviousness exists. The same grain sizes of WC containing the same element as dopant would be expected in the hard metal body of Chen et al. (603) as in the claimed hard metal substrate body.

With respect to claim 4, Chen et al. (603) disclose a surface layer of the hard metal body having a substantially binder-free-carbonitride phase of Group IVa, Va or VIa of the Periodic Table (col. 2, line 63 to col. 3, line 17).

With respect to claim 5, Chen et al. (603) disclose that in the surface region of the hard metal body, there is an enrichment with nitride or carbonitride of the metal dopant (col. 3, lines 11-43).

### ***Response to Arguments***

5. The applicant's arguments filed on January 31, 2008 have been fully considered but they are not persuasive.

The applicant argues that the objectives of Chen et al. (603) and the instant invention are different and the hard metal body of Chen et al. (603) comprises a third phase while the substantially two-phase hard metal substrate body of the instant invention consists essentially of a WC hard material phase consisting of WC and a binder phase. In response, see the grounds of the rejections of claims 1-5 in the paragraphs above. The motivation to develop the hard metal body of Chen et al. (603) does not have to be the same as that of the instant invention. See MPEP 2144 [R-5].

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Weiping Zhu whose telephone number is 571-272-6725. The examiner can normally be reached on 8:30-16:30 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/  
Supervisory Patent Examiner, Art  
Unit 1793

WZ

3/24/2008